



# Impact of land use conflicts on residential development in Akure, Nigeria

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Incompatible land-uses indicate the trend in territorial planning and generate instability and conflicts leading to degradation of the environment. The major problem encountered in most urban centers is the problem of space allocation, which is land management. Due to absence of physical development plans, city centers have developed haphazardly thereby creating various socio-economic problems which affect day to day activities of the inhabitants. Land use conflict is one of those problems resulting from careless attitude of human interaction with the physical environment. The research was borne out of the fact that, land use conflict is a serious issue which needs to be examined in order to improve the process of land use planning and management. This research focuses on land use conflict in Oke-Ijebu, Akure, Ondo State using existing spatial structures of the area. Land use conflict, factors responsible for them and their significant impact on the area were identified. In achieving the aim of this study, the use of primary as well as secondary data was adopted. Questionnaires were used to gather information on socio economic characteristics of the respondents, land use pattern, factors and effect of land use conflict. 177 questionnaires were administered, photographs were taken and stakeholders were also interviewed. Findings showed that, the rate of land use conversion in the study area was alarming, thereby giving rise to land use conflict and it requires urgent intervention in order to reduce this incidence which affects city liveability. The research suggested some recommendations and possible solutions to these problems, these includes development control for effective monitoring, development of land use guide and implementation of planning laws among others.

## INTRODUCTION

Urbanization has been the dominant demographic trend and one of the oldest and most pervasive processes of change that has helped shape societies around the world (Christopher, 2007). The process of urbanization is one of the most important dimensions of economic, social and physical change in developing countries such as those in Sub-Saharan Africa (Aggrey, 2013). In the recent years' urbanization especially in Nigeria has imposed more pressure on land use to meet the needs of increasing population which has cause different major menace in the use of land (Alawode, 2013; Momodou Badjie et al. 2019).

Land scarcity has become a major problem globally which is as a result of population growth, expanding needs, and growing land consumption per person (Bogale, Taeb & Endo, 2006). As a public resource, land experiences interventions of public and private individuals is predisposed to conflicts because of contradictory contemporary demands and contrasting visions about future use and management, this is as a result of the depletion of land resources (O'Neill & Walsh, 2009). However, the use to which land is put depends on land owners and the intention or proposed use which could either be residential, agricultural, commercial, recreational, industrial and transportation use. The incompatibility interaction between these land uses leads to land use conflicts (Leif, 2007). Land use change which is

driven by social, institutional, and technological innovations are the most important conflict sources (Brody, Highfield, Arlikatti, Bierling, Ismailova, Lee, & Butzler, 2004). The growing concerns about the environment, sustainable development, and urban sprawl as well as concerns about the conditions of human living environments have led to interests in land-use conflicts (Healey, 2006; Kuldeep Pareta and Upasana Pareta, 2013; Philip H John et al. 2018). Unfortunately, many cities have developed without paying appropriate attention to planning and regulating the various sorts of uses of the land which led to tremendous problem that have subsequently occurred (Rashid, 2012). He further explained that these diverse predicaments include large numbers of people living beside heavily polluted industries, terrible traffic congestion due to little coordination of the development of residential facilities etc. Land use conflicts often result from incompatible spatial arrangements between land-uses (Von der Dunk, Gret-Regamey, Dalang, & Hersperger, 2011). Spatial arrangements are incompatible when the function of one land-use interferes, or is perceived to interfere, with the function of another (Timothy, 2018). Land use conflicts in urban areas are majorly residential-industrial and residential-transport land use conflicts (Von der Dunk et al, 2011). These can cause noise, air and water pollution. Apart from the noise and gases released by factories, pollution is also caused by the vehicles which carry materials to and from factories, which causes incessant noises and smoke. Heavy road traffic also causes traffic congestion, affecting many nearby residents (Alawode, 2016). As a result, residential and industrial areas are often close neighbours thereby

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creating various problems which affect day to day activities of residents (Hersperger, Ioja, Steiner, & Tudor, 2015). In view of these, it is of great importance to examine the impact of land use conflict on residential developments using Oke-Ijebu in Akure, Ondo State as a case study.

## LITERATURE APPRAISAL

Rapid population growth over the last three decades has created a significant challenge to land use development throughout the world (Masore, 2011). The demand for land driven by population growth and inherent desire for everyone to have access to a piece of land to build a home results in a situation with the land use being changed from typical agricultural practices into residential activities thus resulting to land use conflict (Lampitey, 2009). The demand for land driven by population growth and inherent desire for everyone to have access to a piece of land to build a home results in a situation with the land use being changed from typical agricultural practices into residential activities thus resulting to land use conflict (Lampitey, 2009). Multiple, specific forms of land use conflict have been described in the literature. In a recent review, Von der Dunk et al. (2011) identified six conflict types of noise pollution, visual blight, health hazards, nature conservation, preservation of the past, and changes to the neighbourhood. In general, land use conflict is the result of the competition towards actual to future use of the land, which will have a higher probability confrontation. Most of the conflicts arise from competition for land over its different uses, i.e. utilization of fertile agricultural lands for industrialization, airport and highways constructions etc. (Magsi, 2013).

### Urban Land Use

According to Enisan (2011), the grouping of urban land uses provides a framework for good urban analysis. The main classes of land use generally accepted in the field of urban planning are residential (low, medium, and high densities), commercial and central areas, industrial, public (schools, hospitals, police, post-office, cemetery, etc.), semi-public (churches, mosque etc.), circulation (road, railways, walkway, bicycle tract etc.) and recreational (park, playground, open spaces etc.). It is the provision for all these that promotes or enhances the functionality of community or a human settlement. Thus the form of urban components/services for uses like housing, transport, agriculture, commerce, recreation, tourism, etc. have been at various times been influenced by this phenomena making the environment prone to the menace of land use conflict. Usually, residential areas occupy the highest percentage in any urban settlement. This is usually followed by circulation. The table 1 shows a typically accepted urban land use distribution. Generally, the proportion of land use distribution varies from one urban area to another.

**Table 1** Land Use Distribution of a Typical Urban Area

S/N	Land use	% of land coverage
1	Residential	About 60%
2	Commercial	About 50%
3	Industrial	As required
4	Public and Semi Public	4%
5	Circulation	18%
6	Recreation	12%
7	Others	2%

Source: Herbert & Thomas (1982) as cited by Enisan (2011)

### Urban Land Use Change in Nigeria

Nigeria urban environment are different in the way they develop which could be spontaneous or planned (Alawode, 2013). The difference between traditional unplanned and contemporary modern cities brought

both some advantages and disadvantages which affect the quality of urban life. While the growth of unplanned settlements is from the micro to macro scale, this process is inverted in planned settlements and this has led to lack of hierarchical organization among different levels and also loss of connections between them (Enisan & Oduwaye, 2011). Land use change research has both a temporal and spatial dimension. Land use change studies of the past and present have focused on understanding drivers and processes through the analysis of changing land use patterns derived from remotely sensed data and/or the reconstruction of historic land use maps (Strengers, Leemans, Eickhout, De Vries, & Bouwman, 2004). They further explained that these studies have led to many of the drivers of land use change becoming widely understood and well documented, although new case studies will always throw up new ideas. Moreover, new drivers become important as new issues and land uses emerge; the recent rise in land-based bioenergy production being a case in point. Interpreting process from an observation of the outcomes of a land use change can, however, only go so far (United State Development Agency, 2002). More recently, land system research has shifted away from data-driven, statistical methods to better theorizing about human decisional and behavioural processes using empirical evidence at the level of individuals and/or societies.

### Causes of Land Use Conflict

Unfortunately, many cities and larger urban-suburban regions have developed without paying appropriate attention to planning and regulating the various sorts of uses of the land, and tremendous problems have subsequently occurred (Magsi, 2013). These diverse predicaments include such problems as large numbers of people living beside heavily polluted industries, terrible traffic jams due to little coordination of the development of residential facilities and employment opportunities, and large numbers of people having inadequate access to clean water and other elements of a healthy life-support system. Wehrmann, (2008) argues that conflicts over land uses are drove by poverty, institutional changes and change in society (e.g. demography and environment condition). These create strong psychological fears of insecurity, existence and desire to be recognised that led to extreme materials and emotional needs (shelter, productive base, seeking power and wealth). These needs shape people's interests which then results in change in attitudes and positions thus defining their behaviour on the reactions against the established institutions leading to conflict.

### Impact of Land Use Conflict in the Environment

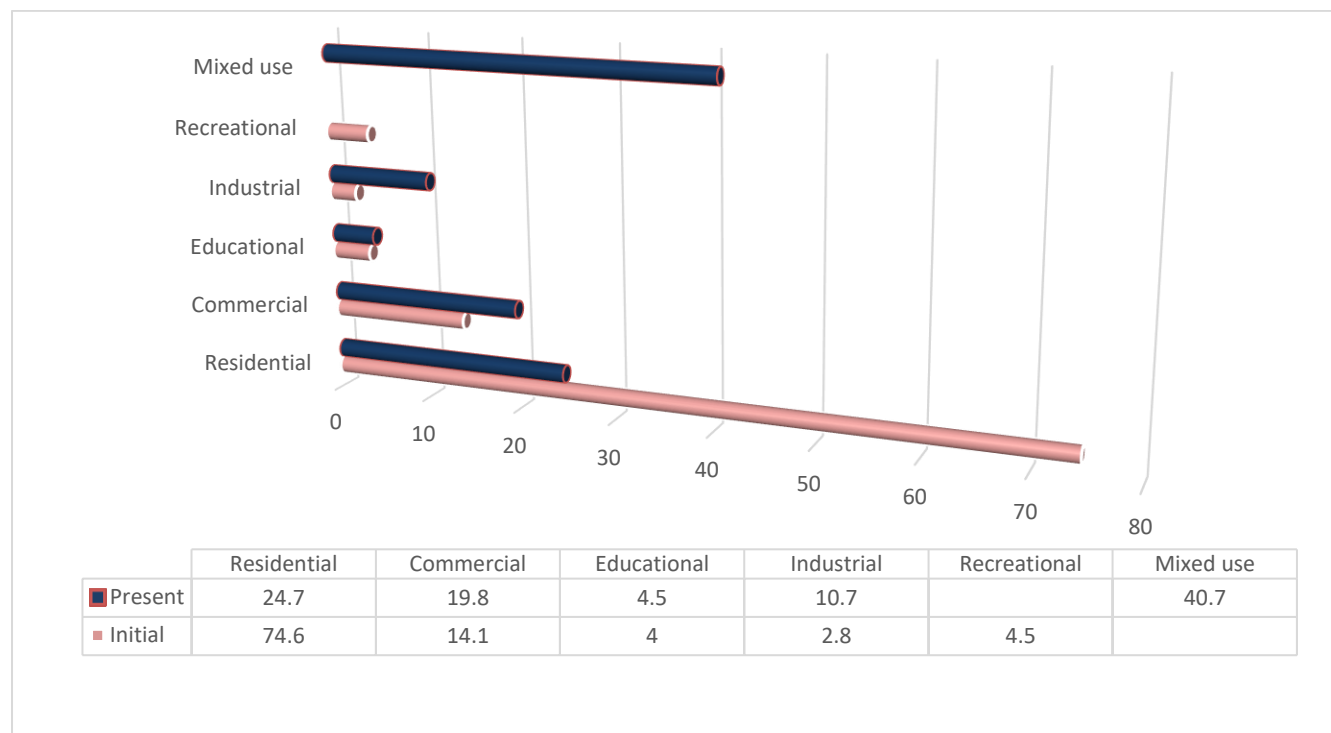
Basically, urban and regional planning principle is about ensuring orderliness in the growth of human settlements. It is also aimed at allocating resources in the most appropriate manner and to the benefit of all stakeholders (Enisan, 2011). The impact of land use conflict on urban and regional planning in Nigeria particular makes it absolutely necessary to look beyond the concept of planning. The impact of this land use conflict has seriously affected the livability in cities resulting in a lot of congestion, which adversely affect other uses of land. Land use conflict in a way limits what the private owners of land can do with their land (Enisan, 2011). Conversions of land use has resulted in rapid emergence of slum areas housing many urban dwellers, poor planning and inefficiently managed urban and rural infrastructure and public services. Indeed, this affects the physical blight and appearance of cities and of course the quality of life of the inhabitants (Oyesiku, 1998).

Many studies document negative effects that result from converting one land use to another (Forman, Reineking, & Hersperger, 2002). However, it is difficult to establish general rules for land-use

**Table 2** Land ownership

Land ownership	Frequency	Percentage
Freehold	29	16.4
Leasehold	127	71.8
Inheritance	21	11.8
Total	177	100

Source: Field Survey, 2018

**Figure 1** Initial and Present Land use

Source: Field Survey, 2018

compatibility or incompatibility because these are usually locally constructed and vary according to the political past, the social and legal framework as well as technical regulations (Tudor, Loja, Patru-Stupariu, & Nita, 2014). For example, an increased probability of negative perception regarding a cemetery location next to residential uses is found for those people who are older, who live within eyesight to a cemetery, who hold jobs requiring less education, and who are aware of several nuisances generated by the cemetery (Tudor et al., 2014).

## MATERIALS AND METHOD

Based on the research problem and objectives, both primary and secondary data sources were used. The use of questionnaire and personal observation was used to acquire relevant primary data from residents in Oke-Ijebu while information gathered from secondary sources involves population data and base maps which were collected from relevant ministries and establishments. Oke-Ijebu was chosen due to the fact that the area has been witnessing a dramatic transformation area has been transformed without proper control and resulted into various environmental, social and institutional problems. Questionnaires were administered using systematic random sampling techniques mainly to the residents of Oke-Ijebu which consists of 3541 buildings. Taking 5% of the sample, a total of 177 questionnaires was administered with an interval of 20 buildings in which the first building was selected at random.

## PRESENTATION OF FINDINGS

Data collected in the course of the research were analysed and presented in form of tables' charts and percentages to describe the frequency of data distribution patterns of the observed attributes. From the analysis, 16.4% acquired their land through freehold, 11.8% through inheritance and 71.8% through leasehold. The fact that land is majorly acquired through leasehold made it easier for people to build haphazardly without recourse to planning regulations (Table 2).

It was discovered during the survey that, Oke-Ijebu had transformed in terms of land use change. According to fig 1, Residential land use dropped from 74.6% to 24.7%, commercial increased from 14.1% to 19.8%, educational land was adjudged to have moved from 4.0% to 4.5%, industrial use increased from 2.8% to 10.7% and mixed use having the highest percentage of 40.7%. The area was initially developed as a residential neighbourhood equipped with needed supplementary land use. Due to land use transformation, the major land use in the area was mixed uses with the most common being residential /commercial land use (plate I). There were cases of residential/ light industries like blacksmith as well as residential/religious use.

As presented in table 3, 51.4% had their buildings closed to religious centers while 48.6% had theirs far from religious centers. It was also observed that some of the residential areas were wrongly used for both residential and religious use having two incompatible land uses (Plate II), generating land use conflict and causing environmental nuisance.

**Table 3** Proximity to religious center

Proximity to religious center	Frequency	Percentage
Yes	91	51.4
No	86	48.6
Total	177	100

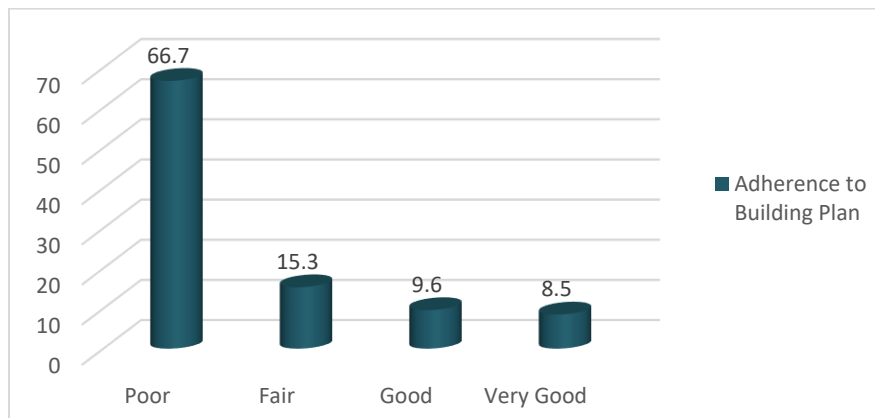
Source: Field Survey, 2018

**Plate I** Mixed use, the most prominent land use in Oke-Ijebu, Akure

Source: Field Survey, 2018

**Plate II** Residential and religious use located in the same compound at Oluwaseun Street, Oke-Ijebu, Akure

Source: Field Survey, 2018.



**Figure 2** Adherence to Building Plan

Source: Field Survey, 2018



**Plate III** Conflicting uses of commercial, religious and residential uses in Oke-Ijebu which was contrary to approved plan

Source: Field Survey, 2018

**Table 3** Performance of monitoring agencies

Performance of monitoring agencies	Frequency	Percentage
Poor	62	35.1
Fair	87	49.1
Good	19	10.7
Very Good	9	5.1
Total	177	100

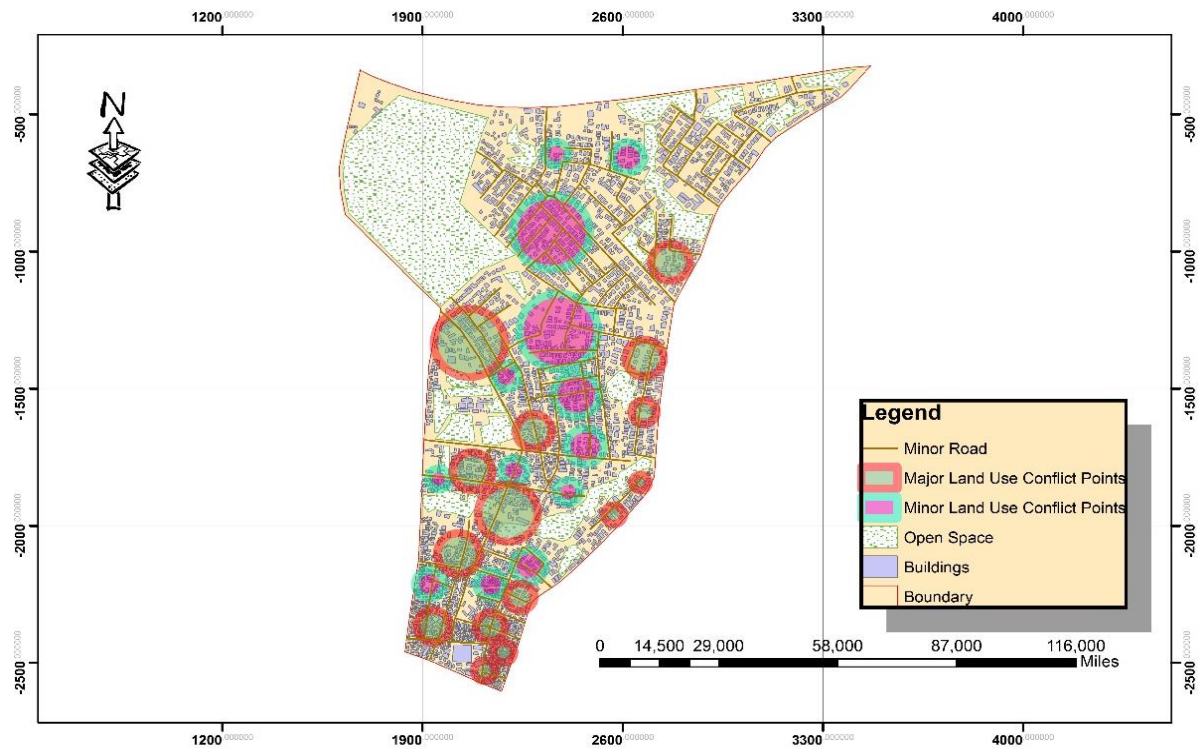
Source: Field Survey, 2018

**Table 4** Type of Environmental Pollution

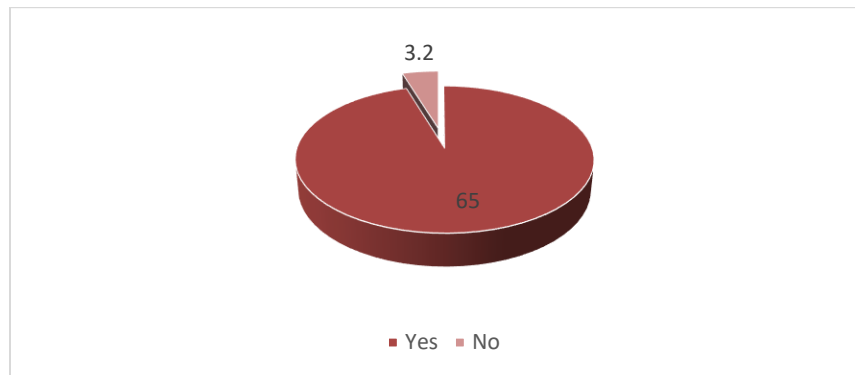
Types of pollution	Frequency	Percentage
Air	65	36.7
Water	23	13.0
Noise	89	50.3
<b>Total</b>	<b>177</b>	<b>100</b>
<b>Onstreet Parking</b>		
Yes	136	76.8
No	41	23.2
<b>Total</b>	<b>177</b>	<b>100</b>

Source: Field Survey, 2018





**Figure 3** Land use conflict points in Oke-Ijebu  
Source: Field survey, 2018.



**Figure 4** Land Encroachment  
Source: Field Survey, 2018



**Plate VIII** Encroachment on the access road at Lawani Street, Oke-Ijebu, Akure.  
Source: Field Survey, 2018.

Analysis presented on the level of adherence to building plan showed that, poor adherence had the highest percentage of 66.7%, followed by fair adherence with 15.3% while good and very good adherence had the least percentage with 9.6% and 8.5% respectively (Fig. 2). According to the analysis on the buildings that have approved plan, very few percentages had approved building plan which were not adhered to during development stage which led to building development contrary to spatial use (Plate III).

In terms of Ministry involvement in monitoring of physical development, 11.3% rated the performance of the monitoring agencies poor, 49.1% rated their performance fair, 10.7% rated their performance good while 5.1% rated their performance on monitoring high. This is an affirmation that the relevant physical planning agencies did not do enough implementation of physical development in the area.

The land use conflicts points in Oke-Ijebu were identified in Fig 3. These conflicts were classified as major and minor. The major land use conflict points entail the conflicting uses of residential/commercial, residential/industrial, residential/institutional uses which was observed at Oke-Ijebu road, Tinubu Street, Adeniyi Street- Garri processing industry, welding industry, mechanic workshops and bakeries located within residential compounds or very close to residential areas; Akinjo Street- Religious, industrial, and commercial use located amidst residential areas. This had a major impact on residential developments and requiring immediate attention, the minor land use conflict points comprises majorly of conflicting uses of residential/religious uses which does not really have a major impact unlike the residential and other land use. These were observed in Ogunleye Street, Lawani Street, Oluwaseun Street. The major and minor land uses were denoted differently for easy observation as it is shown in fig 3.

Land use conflict is one of the major implications of land use change which cannot be over emphasized in the course of this research. Usually, land use conflict was accompanied by other effects such as noise and land pollution, environmental hazard, on-street parking etc.

The prominent was noise pollution with 50.3%, followed by air pollution with 36.7% while water pollution had 13.0%. The reason why noise pollution was prominent in the area was due to various noise generating activities such as mechanic workshop, blacksmith etc that characterized the commercial landscape of the study area (Plate VI). Most of these activities are located within the residential abode constituting land use conflict.

As shown in table 4, 76.8% of the respondents experienced onstreet parking while 23.2% do not experience onstreet parking. The effect of onstreet parking is perceived to be traffic congestion especially during the rush hour thereby increasing the travel time of commuters and sometimes traffic accidents.

One of the major problems of land use conflict was land encroachment, figure 4 showed that, 65.0% of the respondents experiences land encroachment while 35.0% of the respondent does not experience land encroachment. This encroachment was in form of commercial retail centers located within the residential and open spaces.

## CONCLUSION AND RECOMMENDATIONS

Urbanization is growing at a rapid pace in Oke-Ijebu, Akure. With the increased urbanization, the quest for land has increased resulting to various conflicting uses without recourse to land use compatibility. From the information obtained from the field survey, there was clear evidence that, the study area was witnessing gradual transformation on its land uses resulting to various conflicting land uses. The followings

are suggested recommendations in ensuring a sustainable development and effective livability in the area.

The agency responsible for monitoring the development in Oke-Ijebu should intensify effort on their development control mechanism to ensure effective land use development and to curb. The government should encourage the department through funding and adequate manpower to effectively carryout their functions. There is also need for re-orientation by Community Development Association (CDA) through effective partnership for the development and comfort within their domain. Any developments that are not in compliance with the land use map of the area should be disregarded through community advocacy. This will ensure that the area develop with regards to initial land use management. The preparation of land use plan such as master plan should be prepare by the State Ministry of Physical Planning and Urban Development. This plan will consist of the various land uses put together in a compatible way and it will guide land use developments and take care of the overall arrangement of land uses. Strengthening of Ministry of Physical Planning and Urban Developments including physical planning authorities and development control departments coupled with the creation of special departments to handle conversion cases through adequate provision of funds, equipment and skilled personnel.

Above all, full implementation of planning laws and regulations should be embraced. Where there is no law, there would be no violators; there is need for government to implement physical planning standard guiding the growth and development of the area. This will go a long way in promoting effective land administration and management and thus reduces the menace of land use conflict.

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